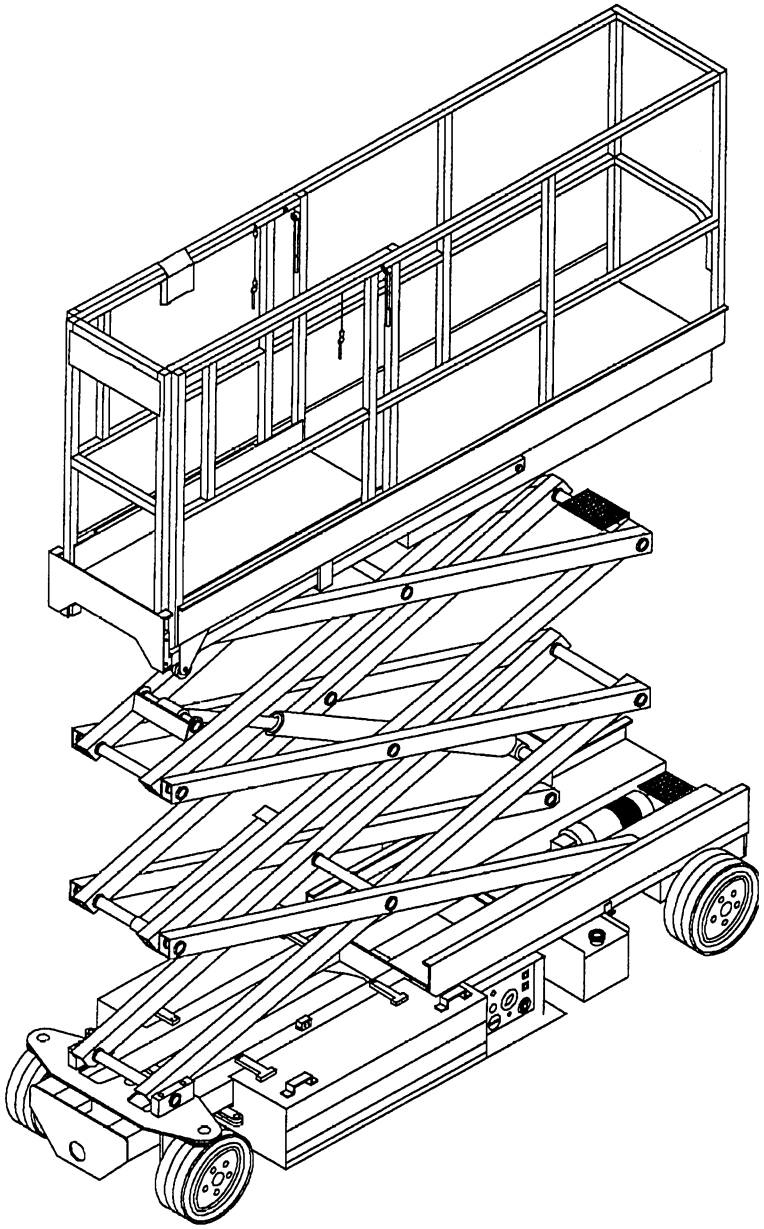
TEREX AERIALS

SCISSOR LIFT

MODELS:

TS20 S/N 98320156 & UP
TS20W S/N 98330014 & UP
TS26 S/N 98340095 & UP
TS26W S/N 98350003 & UP
TS30 S/N 98360096 & UP



FOR PARTS OR SERVICE CONTACT:

SERVICE AND MAINTENANCE MANUAL

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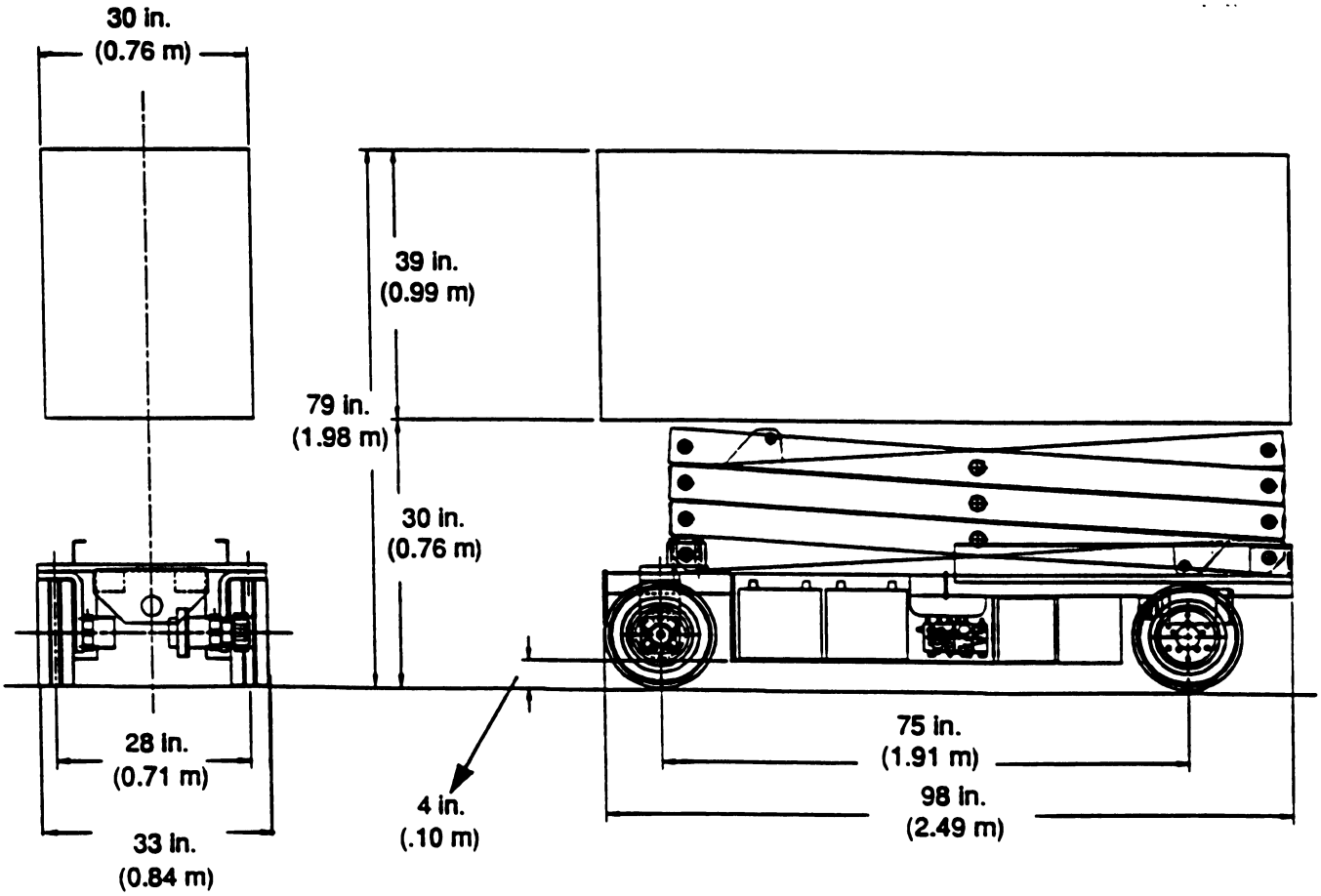
Revision: July '98
P/N 17264

GENERAL INFORMATION



MAINTENANCE & LUBRICATION

SECTION 3

MAINTENANCE & LUBRICATION

CHARGING BATTERIES

A. An adequate AC line to handle the power required (See "Initial Installation"). Request your electrician or power company to survey your installation.

B. All cells of the batteries must be good, rising to approximately 2.5 DC volts per cell while still on charge or near the end of a charging period. When in doubt, check each cell with a single cell voltmeter while still on charge. If a low reading is obtained, check the low cells with a temperature corrected hydrometer. NOTE: Hydrometer float must be thoroughly clean to obtain accurate specific gravity readings.

C. Connections on the battery terminals and connector wiring must be clean and tight.

The necessity of adding water more frequently than two of three weeks, and/or hot battery cases at the end of the charging cycle, indicates the finish rate is too high, due to one or both of the following:

A. One or more bad cells in the batteries.

B. Batteries are starting to age to the point where hours of charge should be reduced gradually to obtain prolonged battery life.

4. To determine approximate full charge at start of day's use, turn timer knob to "1". Drop of ammeter needle to the low finish rate within 15 minutes indicates full charge.

5. Always turn timer to "OFF" before disconnecting charger from batteries.

PROPER CARE OF MOTIVE POWER BATTERIES

1. New batteries should be given a full charge before their first use because it is difficult to know how long the batteries have been in storage without a charge.

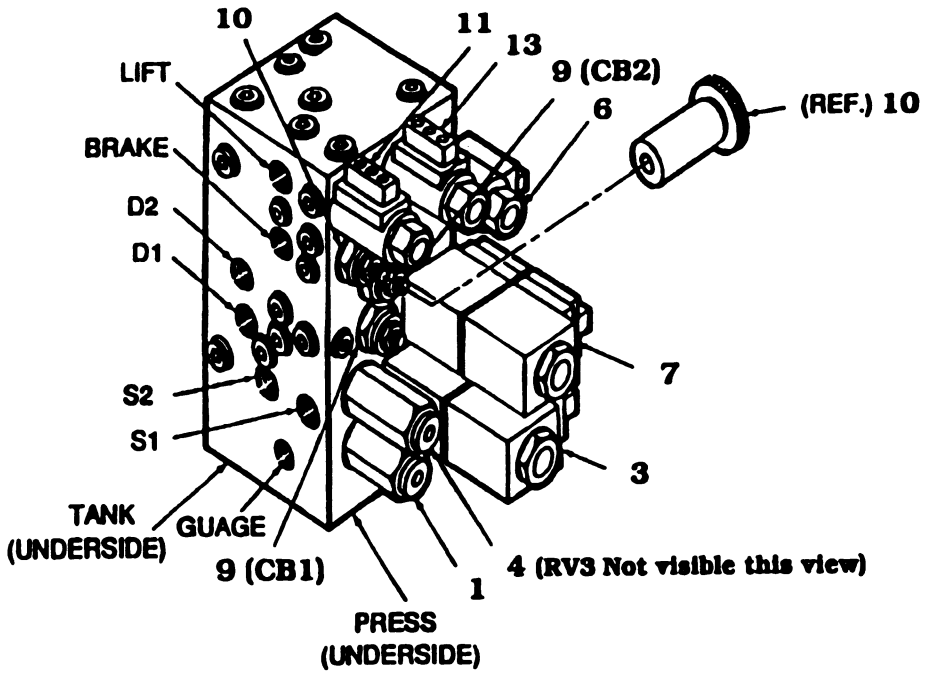
2. Limit use of new batteries between charges for the first 5 cycles. New batteries and older batteries which have been in storage are not capable of their rated output until they have been discharged and charged a number of times.

3. During the first month of use, particularly when temperatures are below 60°F, new batteries should be given an extra full charge once a week. The ampere-hours of energy that batteries can deliver and their charge acceptance varies directly with battery temperature.

4. As long as the charger tapers down to the specified finish charge rate near the end of the charge cycle, the batteries should be given a full charge. All cells in a set of batteries do not react identically to the same discharge, and charge current. In a normal charge, the last 1 to 3 hours at the low finish charge rate equalize the cells for better battery life.

5. When batteries age to the point where the charge rate will no longer taper into the low finish rate area, reduce the hours of charge progressively. Reducing the charge period will prevent excessive battery heating and the resultant high water use rate.

6. Prior to each day's use, turn the charger on and check to see if charger ammeter needle jumps smartly upward and then tapers down to the finish rate area within 15 minutes. This will provide a

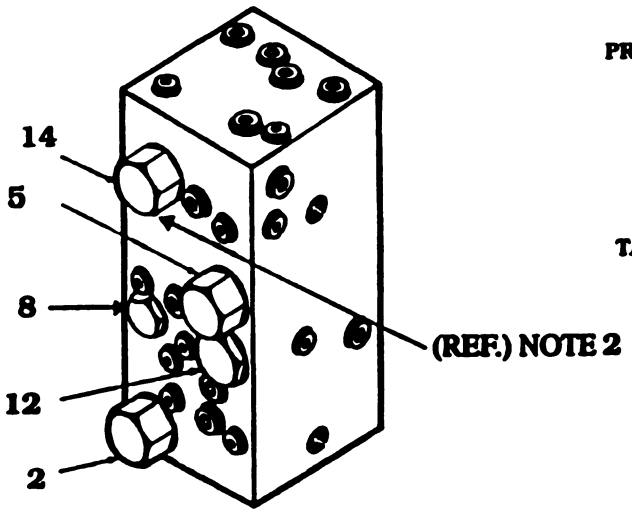


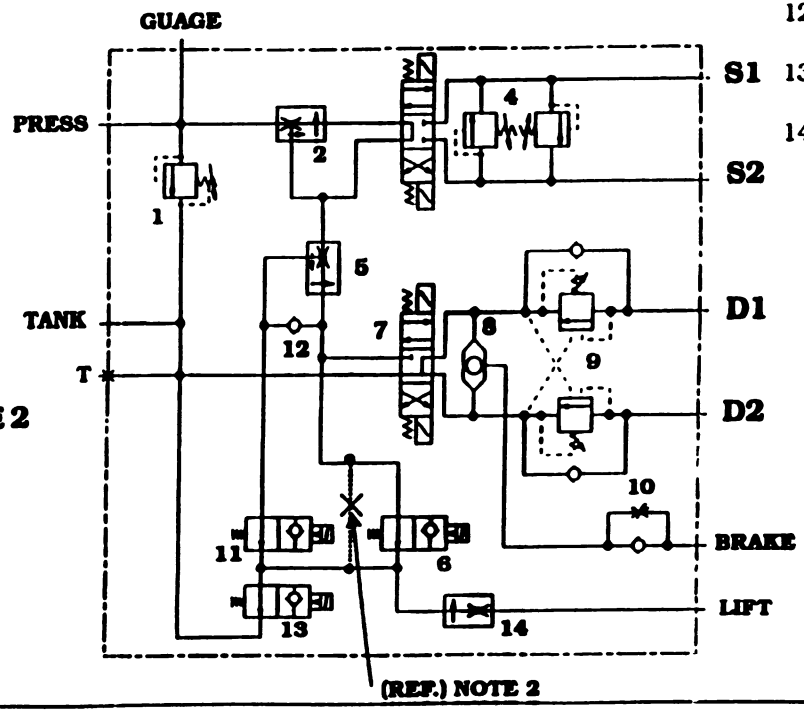
Note 1: Illustration is only representative. Actual appearance of components may vary.

Note 2: Pipe plug installed inside valve body behind SAE plug.

Component Description

1. System Relief Valve. (RV1)
2. Steering Flow Regulator. (FR1)
3. Steering Directional Control-Valve. (SV1)
4. Steering Relief Valve—Piston Side—(RV2), (RV3).
5. Low Speed Drive Flow Regulator. (FR2)
6. Drive Enable Solenoid Valve. (SV3)
7. Drive Directional Control Valve. (SV2)
8. Parking Brake Shuttle Valve. (LS1)
9. Counterbalance/Dynamic Braking Valve
   —Forward Direction. (CB2)
   —Reverse Direction. (CB1)
10. Parking Brake Control/ Freewheeling Valve. (FC1)
11. High Speed Travel Solenoid Valve. (SV4)
12. Regenerative Check Valve. (CV1)
13. Platform Lift Solenoid Valve. (SV5)
14. Platform Lowering Speed Flow Regulator. (FR3)



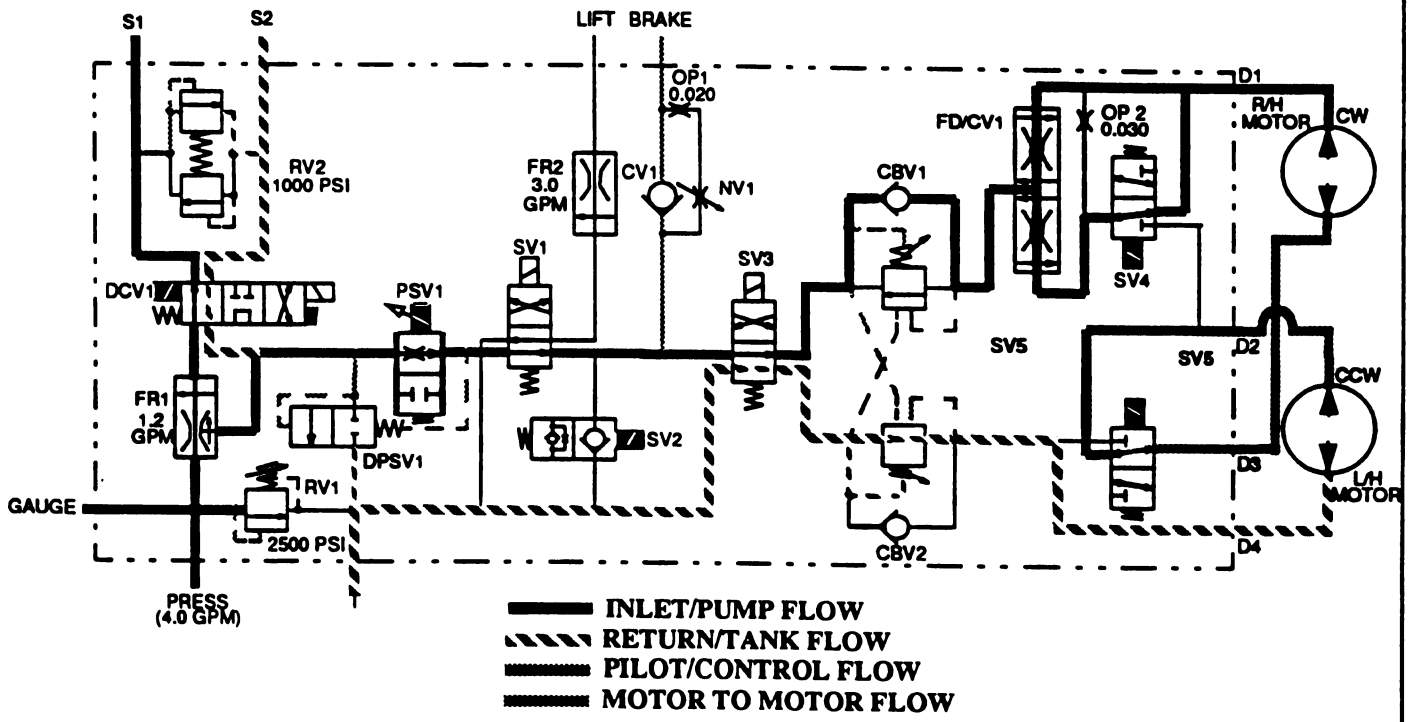


Function Control Valve
P/N 81451

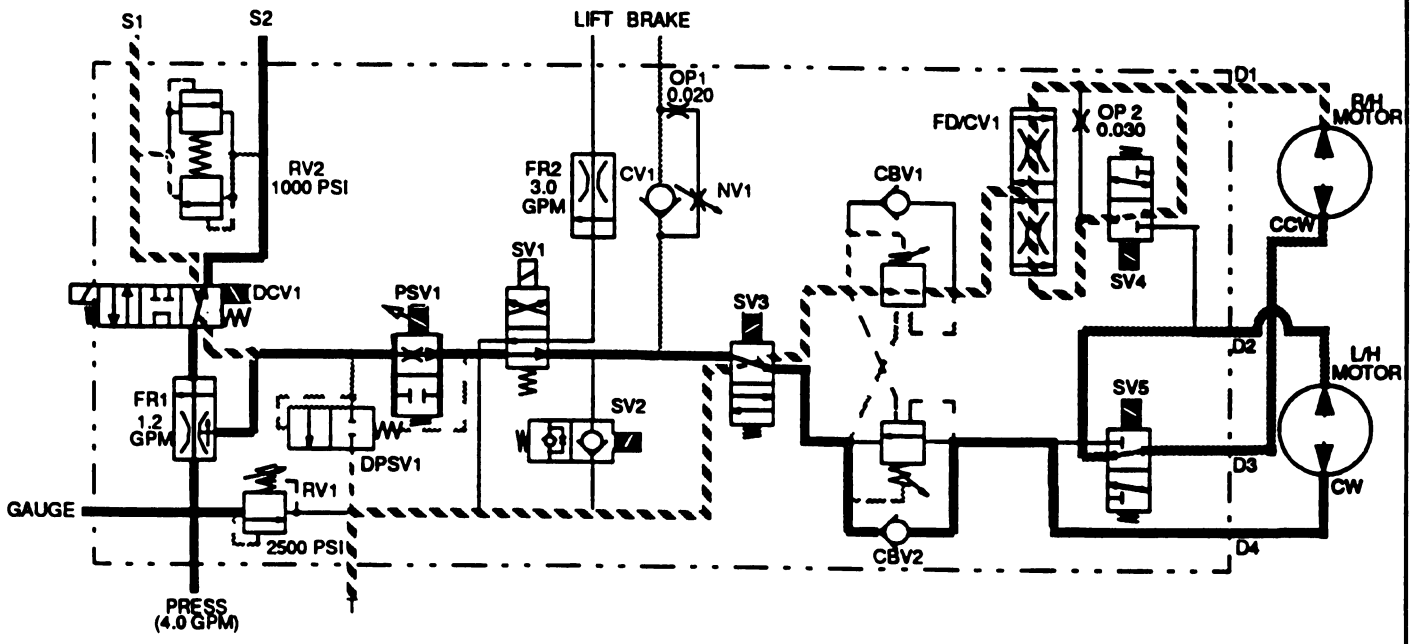
SERVICE & ADJUSTMENTS

P/N 81478 VALVE ASSEMBLY (CONT.)

FLOW IN "HIGH SPEED" (SERIES) FORWARD TRAVEL& STEER RIGHT



FLOW IN "HIGH SPEED" (SERIES) REVERSE TRAVEL& STEER LEFT



TROUBLESHOOTING

FAULT: NO CONTROLS OPERATE AT AERIAL STATION

1. AERIAL CONTROL EMERGENCY STOP SWITCH PUSHED IN OR DEFECTIVE.
2. SCISSOR ARM CABLE CONNECTOR AT REAR OF GROUND CONTROL BOX LOOSE.
3. QUICK DISCONNECT AT BOTTOM OF AERIAL CONTROL BOX LOOSE.
4. OPEN CIRCUIT (WIRE #3) TO PIN "C" OF QUICK DISCONNECT.
5. OPEN CIRCUIT (WIRE #3) PIN "C" TO AERIAL CONTROL EMERGENCY STOP SWITCH.
6. OPEN CIRCUIT (WIRE #50) EMERGENCY STOP SWITCH TO CONTROLS ENABLE SWITCH.
7. OPEN CIRCUIT (WIRE #60) CONTROLS ENABLE SWITCH TO CONNECTION ON FUNCTION CONTROL SWITCHES.
8. DEFECTIVE CONTROLS ENABLE SWITCH.

FAULT: PLATFORM DOES NOT LIFT OR LOWER FROM AERIAL STATION

1. OPEN CIRCUIT (WIRE #60) TO DRIVE ENABLE SWITCH (S5) ON DRIVE/STEER JOYSTICK.
2. DRIVE ENABLE SWITCH (S5) DEFECTIVE OR INOPERATIVE.
3. OPEN CIRCUIT (WIRE #70) DRIVE ENABLE SWITCH (S5) TO PLATFORM LIFT/LOWER SWITCH (SW5).

FAULT: PLATFORM DOES NOT LIFT FROM AERIAL STATION

1. LIFT FUNCTION INOPERATIVE DUE POTENTIALLY UNSTABLE CONDITION (INSTABILITY ALARM LIGHT AND BUZZER ON).
2. PLATFORM LIFT/LOWER SWITCH (SW5) DEFECTIVE.

TROUBLESHOOTING

FAULT: UNIT DOES NOT CLIMB GRADE (10%).

1. PUMP BY-PASSING.
2. DRIVE MOTORS BY-PASSING.
3. PARKING BRAKE(S) "DRAGGING" (NOT RELEASING FULLY).
4. DYNAMIC BRAKING COUNTERBALANCE VALVES (CB1 & CB2) ADJUSTED TOO "HIGH" (TOO TIGHT).
5. PARKING BRAKE RELEASE SHUTTLE VALVE (LS1) LEAKING.
6. LOW SPEED FLOW REGULATOR MALFUNCTIONING.

FAULT: HYDRAULIC FLUID IN RESERVOIR EXTREMELY HOT.

1. RELIEF VALVE (RV1) STUCK OPEN OR SET TOO LOW.
2. HIGH WATER CONTENT IN HYDRAULIC FLUID.
3. SUSTAINED OPERATION FOR EXCESSIVE TIME PERIOD OR NEAR "PEAK" OPERATING PRESSURE.

FAULT: PUMP SQUEALS OR IS EXCESSIVELY NOISY.

1. FLUID LEVEL IN RESERVOIR TOO LOW (PUMP CAVITATING).
2. BREATHER IN FILLER CAP PLUGGED (PUMP CAVITATING).
3. WATER IN HYDRAULIC FLUID.
4. PUMP INLET SUCKING AIR (AERATION).
5. BY-PASS VALVE IN RETURN LINE FILTER STUCK OPEN.